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19. An electric machine including at least:

a magnet producing lines of magnetic flux extending through an air gap in a first direction; and,

a support capable of at least two dimensional motion in a single plane relative to the magnet, said support provided with at least two electrically conductive paths each having a current carrying segment, said segments disposed in and extending across said lines of magnetic flux in a second direction substantially perpendicular to the first direction, and extend with a circumferential aspect to a plane containing the support and wherein interaction of an electric current flowing through a particular segment and the magnetic flux produces a thrust force to cause said motion of said support relative to said magnet.

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20. The electric machine according to claim 19, wherein the said magnet is configured to define a space in which said support is disposed and to provide access to both a top and bottom surface of said support.

21. The electric machine according to claim 19, wherein the said magnet is in the form of a closed loop and provides a common polarity flux in the air gap.

22. The electric machine according to claim 19, wherein the said magnet has an innermost side in which said air gap is formed.

23. The electric machine according to claim 19, wherein the said magnet has an outermost side in which said air gap is formed..

24. The electric machine according to claim 19, wherein each electrically conductive path comprises a single turn of conductive material, and each said segment carries a single phase of electric current through said lines of magnetic flux within the said air gap.

25. The electric machine according to claim 19, wherein said support is disposed relative to said magnet so that said segments are centrally located within the air gap.

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26. The electric machine according to claim 19, wherein the said support has a central aperture.

27. The electric machine according to claim 19, further including a controller to provide electric current to each segment via said electrically conductive paths to provide variable relative motion between said support and said magnet, said relative motion determined by one or more of, amplitude, frequency, polarity and or phase relationship of the supplied electric currents.

28. The electric machine according to claim 19, further including an induction device associated with said electrically conductive paths for inducing currents to flow through said electrically conductive paths.

29. The electric machine according to claim 28, wherein said support is free of any electrical cable or terminal connection.

30. The electric machine according to claim 28, wherein said induction device is supported separately from said support.

31. The electric machine according to claim 19, wherein said support is made of electrically conductive material and is provided with a plurality of apertures, wherein at least one of said electrically conductive paths and its corresponding segment are constituted by portions of said support that extend about one of said apertures.

32. The electric machine according to claim 19, wherein said support is made of an electrically conductive material and is in the form of a wheel having a central portion, spokes extending radially outward from said central portion , and an outer rim joining said spokes, respective apertures being defined in said wheel between adjacent spokes and sectors of said central portion and rim between said adjacent spokes, and wherein each electrically conductive path comprises two spokes and respective sectors of said central portion and said rim extending between said two spokes.

33. The machine according to claim 31, including an induction device associated with said electrically conductive paths for inducing currents to flow through said electrically

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conductive paths wherein said induction device comprises a plurality of wound cores, each wound core having a core body made from a magnetically permeable material which interlinks adjacent apertures and an electric coil wound about said core.

34. The electric machine according to claim 32, including an induction device associated with said electrically conductive paths for inducing currents to flow through said electrically conductive paths said induction device including:

a core formed into a closed loop and provided with a plurality of windows through which respective spokes of said support pass, each window bound by opposed branches of said core that extend in planes lying parallel to said support and opposed legs of the core that extend in planes perpendicular to said support; and, a plurality of electrically conductive coils, at least one coil wound about at least one of the branches or legs of each window.

35. The electric machine according to claim 19, further including a coupling for mechanically coupling said support to a mechanical input that moves said support in said at least two dimensions in said single plane to induce an electric current to flow in said conductive paths, whereby said electric machine acts as an electric generator.

36. The electric machine according to claim 19, wherein the number of segments is equal to the number of electric phases supplied to said support.

37. The machine according to claim 19, wherein said support is made of electrically conductive material and said segments are constituted by sections of said support, said segments being short circuited to each other.

38. The machine according to claim 19, further including a transformer, said transformer including a primary winding and at least one secondary winding, said secondary winding constituted by said support whereby, when electrical current is passed through said primary winding, current is induced to flow through said support and said segments.

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39. An electric machine including at least:

a magnet producing lines of magnetic flux extending through an air gap in a first direction; and,

a support provided with at least three electrically conductive paths, each path having a segment, said segments equally spaced from each other and disposed in and extending across said lines of magnetic flux in a second direction substantially perpendicular to said first direction, said segments further extending with a circumferential aspect to a plane containing said support;

a first one of said segments disposed at a non-diametrically opposed location relative to a second one of said segments;

said support and magnet moveable relative to each other where said motion includes two dimensional motion in a single plane;

wherein interaction of an electric current flowing through a particular segment and the said lines of magnetic flux create a thrust force to drive said relative motion of said support and magnet.

40. The electric machine according to claim 39, wherein said magnet is configured to allow access to both a top and bottom surface of said support.

41. The electric machine according to claim 39, wherein said magnet has an innermost side in which is formed said air gap and an outermost side which forms part of a magnetic flux return path of said magnet.

42. The electric machine according to claim 39, wherein said magnet has an outermost side in which is formed said air gap and an innermost side forming part of a magnetic flux return path of the said magnet.

43. The electric machine according to claim 39, wherein each electrically conductive path comprises a single turn of conductive material, and each said segment carries a single phase of electric current through said lines of magnetic flux within the said air gap.

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44. The electric machine according to claim 39, wherein said support is configured to position at least one of said segments in the said air gap, wherein said segment stays under the influence of said magnetic flux throughout the extent of said relative motion of said magnet and support.

45. The electric machine according to claim 39, wherein said support is disposed relative to said magnet so that said segments are centrally located within said air gap.

46. The electric machine according to claim 39, wherein the said support has a central aperture.

47. The electric machine according to claim 39, further including a controller for providing said electrically conductive paths each with a different phase of a three phase sinusoidal AC supply, each of said phases being 120 degrees out of phase with each other.

48. The electric machine according to claim 47, wherein said relative motion generated is in the form of a circular orbital motion.

49. The electric machine according to claim 48, wherein said motion is of a frequency which is synchronous with the frequency of the AC supply to the said electrically conductive paths.

50. The electric machine according to claim 39, further including a controller for providing individually variable current to each of said electrically conductive paths to enable variation of one or more of phase relationship, frequency, polarity and amplitude of said currents, to produce any desired pattern or direction of relative motion.

51. The electric machine according to claim 39, further including an induction device associated with said electrically conductive paths for inducing currents to flow through said electrically conductive paths.

52. The electric machine according to claim 51, wherein said induction device is supported separately from said support.

53. The electric machine according to claim 39, wherein said support is made of electrically conductive material and is provided with a plurality of apertures, wherein at least

one of said electrically conductive paths and its corresponding segment are constituted by portions of said support that extend about one of said apertures.

54. The electric machine according to claim 39, wherein the support is made of an electrically conductive material and is in the form of a wheel having a central portion, spokes extending radially outward from central portion, and an outer rim joining said spokes, respective apertures being defined in said wheel between adjacent spokes and sectors of said central portion and rim between said adjacent spokes, and wherein each electrically conductive path comprises two spokes and respective sectors of said central portion and said rim extending between said two spokes.

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55. The machine according to claim 53, including an induction device associated with said electrically conductive paths for inducing currents to flow through said electrically conductive paths said induction device comprising a plurality of wound cores, each wound core having a core body made from a magnetically permeable material which interlinks adjacent apertures and an electric coil wound about said core.

56. The electric machine according to claim 54, including an induction device associated with said electrically conductive paths for inducing currents to flow through said electrically conductive paths said induction device including:

a core formed into a closed loop and provided with a plurality of windows through which respective spokes of said support pass, each window bound by opposed branches of said core that extend in planes lying parallel to said support and opposed legs of the core that extend in planes perpendicular to said support; and, a plurality of electrically conductive coils, at least one coil wound about at least one of the branches or legs of each window.

57. An electric machine including at least:

a magnet producing lines of magnetic flux extending through an air gap in a first direction; and,

a support provided with at least three electrically conductive paths, each path having a segment, said segments equally spaced from each other and disposed in and

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extending across said lines of magnetic flux in a second direction substantially perpendicular to said first direction, said segments further extending with a circumferential aspect to a plane containing of said support;

a first one of said segments disposed at a non-diametrically opposed location relative to a second one of said segments;

said support and magnet moveable relative to each other where said motion includes two dimensional motion in a single plane;

a coupling for mechanically coupling said support to a mechanical input that moves said support relative to said magnet to induce electric current to flow in said conductive paths,, whereby said electric machine acts as an electric generator.

58. An electric machine according to claim 57, wherein each conductive path is provided with a lead that carries current generated from the conductive path.

59. An electric machine according to claim 58, wherein each lead is connected to a common junction.

60. The electric machine according to claim 39, wherein the number of segments is equal to the number of electric phases supplied to said support.

61. The machine according to claim 39, wherein said support is made of electrically conductive material and said segments are constituted by sections of said support, said segments being electrically short circuited to each other.

62. The machine according to claim 61, further including a transformer, said transformer including a primary winding and at least one secondary winding, said secondary winding constituted by said support whereby, when electrical current is passed through said primary winding, current is induced to flow through said support and said segments.

63. The electric machine according to claim 39, further including a controller for providing the said electrically conductive paths with a DC electrical supply.

64. The electric machine according to claim 39, further including a controller for providing individually variable current to each of said electrically conductive paths to enable

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variation of one or more of phase relationship, frequency, polarity and amplitude of said currents, to produce any desired pattern or direction of relative motion.

65. An electric machine including at least:

a support mounted for motion in two dimensions in a single plane and provided with at least two electrically conductive paths; and,

a magnet defining an air gap through which lines of magnetic flux extend;

each of said electrically conductive paths having a segment that is disposed in said air gap, said segments being short circuited together;

wherein at least two of said segments are positioned relative to each other so that when electric current flows through said segments, forces created by interaction of currents and magnetic flux do not lie along a common line.

66. An electric machine including at least:

first and second air gaps through which lines of magnetic flux extend; and,

a support capable of non-rotary motion in at least two dimensions in a first single plane and motion in a second plane wherein said first and second planes are not parallel to each other, said support provided with at least two electrically conductive path, each having a segment lying in a plane parallel to said first plane and disposed in said first air gap, and at least two electrically conductive paths each having a segment lying in a plane parallel to said second plane and disposed in said second air gap;

wherein interaction of an electric current flowing through the segments and the magnetic field produces a thrust force acting on the support via that segment wherein the direction and magnitude of the respective thrust forces can be controlled by varying one or more of the amplitude, frequency, polarity and phase relationship of the electric currents flowing through the segments.

67. An electric machine including at least:

a magnet producing magnetic fields having lines of flux extending through a plurality of air gaps:

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a movable support, said support provided with first and second sets of electrical conductors , each set of electrical conductors having two or more segments lying in respective non parallel common planes, said where two of the segments of each set are not located diagonally opposite each other; and

wherein the segments of each set of conductors are disposed in respective air gaps,

said segments further disposed so that respective thrust forces generated thereon by interaction of respective electrical currents flowing through said segments and said magnetic fields induces motion along or about respective axes in said planes.

68. A method for controlling motion of a support including the steps of:

providing said support with two or more electrically conductive paths;

providing one or more magnets having one or more air gaps through which lines of magnetic flux extend;

providing respective AC currents to said segments;

disposing respective segments of each path in one of said air gaps, said segments further disposed so that thrust force generated by interaction of respective AC currents flowing through said segments and said magnetic flux induces two dimensional motion of said support in a single plane ; and,

controlling one or more of the amplitude, frequency, polarity and phase of said AC electrical currents fed to respective segments to control said thrust forces and thereby control said motion of said support.

69. The electric machine according to claim 39, wherein said magnet is one of a plurality of magnets each of which is formed with an air gap through which lines of magnetic flux pass, and wherein individual segments are disposed in respective air gaps.

70. An electric machine including at least:

a plurality of magnets each having an air gap through which lines of magnetic flux extend; and,

a support provided with at least three electrically conductive paths, each path

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having a segment, said segments equally spaced from each other and disposed in respective air gaps and extending across said lines of magnetic flux in said air gap in a direction substantially perpendicular to said lines of magnetic flux, said segments further extending with a circumferential aspect to a plane containing said support;

a first one of said segments disposed at a non-diametrically opposed location relative to a second one of said segments;

said support and magnets moveable relative to each other where said motion includes two dimensional motion in a single plane;

wherein interaction of an electric current flowing through a particular segment and the said lines of magnetic flux create a thrust force to drive said relative motion of said support and magnets.

71. An electric machine including at least:

a support provided with a plurality of electrically conductive paths, each path having a segment lying in a plane substantially perpendicular to a plane of said support, wherein any two segments are relatively disposed to each other at a non-diametrically opposed location;

providing one or more magnets having one or more air gaps through which lines of magnetic flux extend;

a magnet having an air gap through which lines of magnetic flux extend;

respective said segments disposed in one of said air gaps and extending substantially perpendicular to said lines of magnetic flux;

wherein interaction of respective electric currents flowing through said segments and said magnetic flux produces respective thrust forces acting on said support via a respective segment along an axis perpendicular to said plane of said support.

72. An electric machine including at least:

one or more magnets providing first and second air gaps through which lines of magnetic flux extend; and,

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a support moveable relative to said magnets, said support provided with at least two electrically conductive paths each path having a segment lying in a common first plane and disposed in said first air gap, and at least two electrically conductive paths each path having a segment lying in a corresponding plane which is not parallel to said first plane and disposed in said second air gap;

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wherein interaction of an electric current flowing through the segments lying in said first plane and said lines of magnetic flux in said first air gap produce thrust forces acting between said magnet and said support along or about respective axes in said first plane, and interaction of an electric current flowing through the segments lying in said corresponding planes and the magnetic flux in said second air gap produce respective thrust forces acting on said support along or about axes lying in said corresponding planes,

wherein the direction and magnitude of the respective thrust forces can be controlled by varying one or more of the amplitude, frequency, polarity and phase relationship of electric currents flowing through the segments.